



## Time is Money

*When Ben Franklin told a young tradesman, "Remember that time is money," he was talking about hours, not years.*

*Still, his famous quote is apt when we think about longer periods.*

Ask anybody whether they would prefer \$1 now or \$1 later, and you can be pretty sure they will choose "now".

The only way they're going to opt for "later" is if you offer them more money later. And if "later" is ten years away rather than one year away, they're going to want lots more.

"Of course," you might be saying. "That's because of inflation." But it would be true even if inflation was zero.

The time value of money, as it's sometimes called, is a concept that affects many savings and investment decisions.

People often misjudge situations or make bad moves because they don't fully grasp how time and money interact.

So let's start with the basics. We'll compare receiving \$10,000 today with receiving the same amount a year from now. With the money in your hand now, you could:

- Buy something you want now, or any time in the next 12 months. If you have to wait a year, you don't have that option.



- Put it in a 12-month term deposit. When it matures, you will have earned interest on it.

The time value of money also applies to mortgages and other borrowing. If you consider what the lender gives you

at the start of a mortgage or other loan and how much more you give back in monthly payments, the difference can look alarming – especially if interest rates are high.

On a \$200,000 mortgage at 7%, you will pay back \$200,000 in principal plus another \$225,000 in interest over 25 years.

If the interest rate was 5%, total interest would be "only" \$150,000. But if it was 9%, interest would total more than \$300,000. And at 11%, the interest would total close to \$400,000 – twice as much as the original loan.

Over a lifetime, it's common to make mortgage payments, including interest, that total twice as much as the amounts borrowed, or more.

Does that mean lenders rip us off? No. They give us money now, when it's worth more. They wouldn't do the deal unless they

were compensated for getting their money back later, by receiving interest.

Interest is simply the price of using money, just as rent is the price of using a property.

Rightly or wrongly, most people don't mind too much that they pay lots of interest over the life of a mortgage, because the value of their house is rising. Also, they have somewhere to live rent-free. Or, if it's a rental property

(CONTINUED PAGE 2)

### BUT WE DO HAVE INFLATION

*It's all very well to say money is more valuable now than later, even if inflation is zero. But in present-day New Zealand, inflation – albeit low inflation – is a reality.*

*This is reflected in interest rates and other returns on investments. For example, a current interest rate is typically two or three percentage points higher than if there was no inflation.*

*But another ingredient in all interest rates – another few percentage points – is compensation to the lender or depositor for giving up more valuable dollars now in exchange for less valuable dollars later. The time value element will always be there.*

**(TIME IS MONEY, CONTINUED)**

that they have bought with a mortgage, they receive rental income.

**It's worrying,** however, if you borrow long-term to buy things that lose value. You might, for example, be in the habit of borrowing to buy furniture, appliances or travel, or you might frequently owe money on your credit card for months.

You would probably be shocked if you added up the interest on those items over a lifetime – the price you've paid for having them sooner rather than later.

If, instead, you saved for the items and bought them with cash, you could save heaps. You would also benefit from the added bargaining power that cash buyers often have.

An example of how you might change your habits: If you routinely run up a large credit card bill for overseas travel, and take many months to pay it off, substitute a cheap local holiday for just one year.

Plan to pay off that holiday in a month. After that, every month put the money that you would have used in the past on credit card payments into term deposits.

Rather than paying interest, you will be earning interest.

By holiday time the next year, you should have accumulated more than enough for your next trip – assuming you continue trips of about the same cost as in the past.

Use some of the money to pay off your credit card in full right after the trip, and put the rest into long-term savings.

Follow that pattern from then on, and you could retire with thousands of dollars more – all for the small sacrifice of a less exciting holiday one year.

**Another example** of how the time value of money works is to look at pensions or annuities. With these, you give a lump sum to an insurance company or leave your savings in your superannuation scheme after you retire. You get back regular payments, usually monthly until you die.

If you die soon afterwards, the total monthly payments will be less than your original lump sum. But if you live an average lifespan, the total payments will be considerably *more* than the lump sum.

And if you live an unusually long life, the imbalance will be large.

This is the reverse of a mortgage. You give the money upfront, when each dollar is worth more, so you will get many more dollars back later – as long as you live long enough.

**WHAT A DIFFERENCE 1% MAKES?**

*Earning 1 percentage point more – or paying 1 percentage point less in fees – makes a big difference to a long-term investment.*

*Savings of \$10,000 at 3% will grow to about \$24,300 in 30 years, but at 4% they will grow to nearly \$32,400.*

*What about regular savings of \$100 a month? Over 30 years, at 3% you'll get \$57,900; at 4%, \$68,500.*

*Or let's say you want to save \$50,000 at \$100 a month. If you earn 3%, it will take you 27 years and 2 months to accumulate \$50,000. But if you earn 4%, it will take you only 24 years and 9 months.*

*However, when you look at short periods, there's little difference.*

*Over six months, \$10,000 at 4% will grow to only \$50 more than at 3%. By the time you pay tax on your interest, it's often not worth bothering to search for a higher return for a few months.*

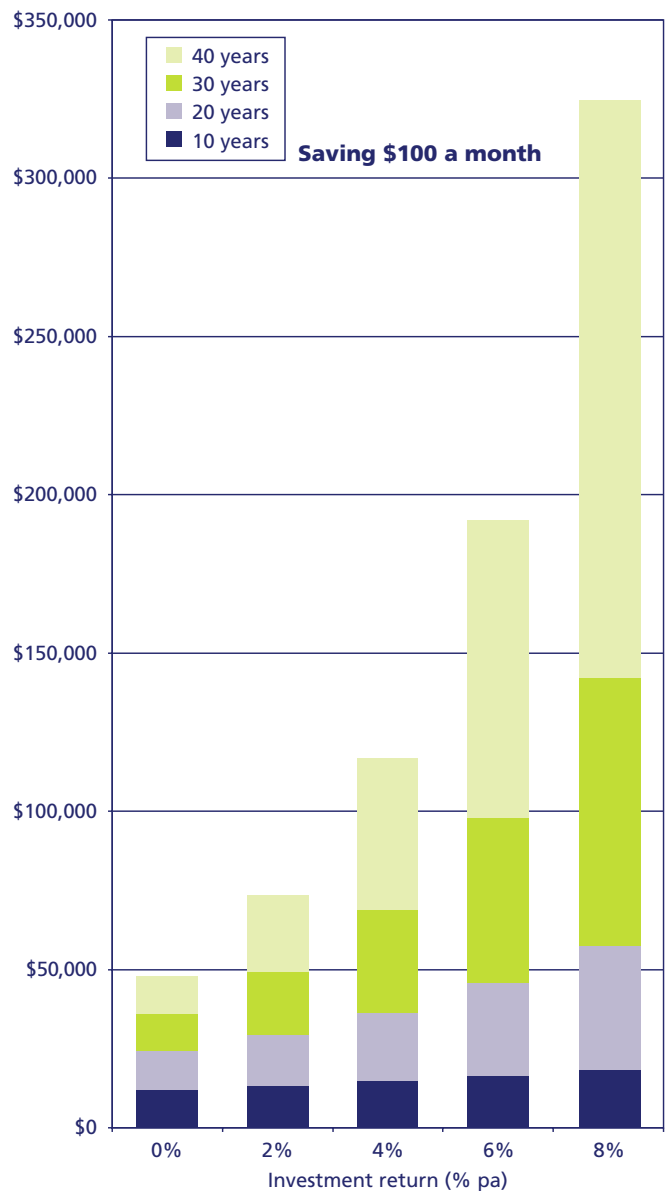
**INTERNET CALCULATORS**

*Want to know how much a regular savings programme will grow to over a certain period?*

*Go to the Retirement Commissioner's website, [www.sorted.org.nz](http://www.sorted.org.nz), click on Calculators, then Regular Savings Calculator.*

*Other calculators on the site tell you how much a lump sum will grow to, and much more.*

**START NOW!**  
**The early years really count**

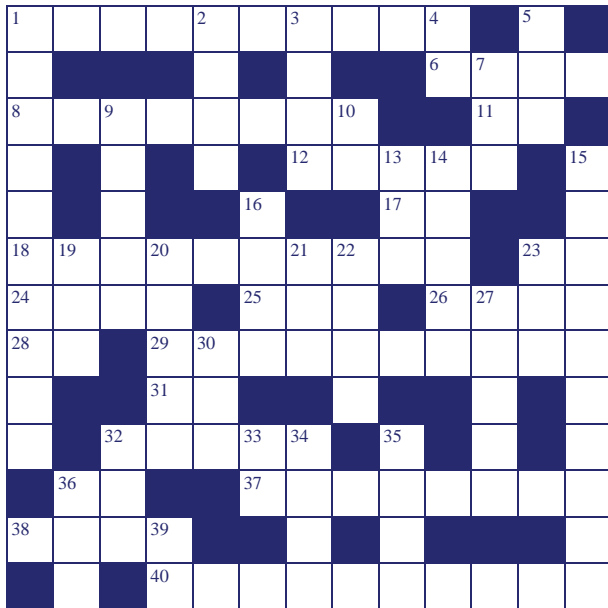


Someone who saves \$100 a month for 20 years has considerably more than twice as much as a person who saves for 10 years – unless they earn no interest. The person who saves for 30 years has much more than three times the 10-year saver, and the diligent 40-year saver does even better. In all cases, the higher the interest rate, the bigger the differences. Even if you have only a few years left to save, the same principle applies. Delaying saving for just a year or two can severely reduce your total savings.



***"I've got all the money I'll ever need, if I die by four o'clock."***

US comedian, Henny Youngman 1906-98



Solution: Back page

## HOLM TRUTHS CROSSWORD Summer 2003/04

### ACROSS

1. Adding machine (10)
6. Level, equal (4)
8. Costs (8)
11. Not he or she (2)
12. Sword (5)
17. Period spent abroad (abbrev.) (2)
18. Time to pant (anagram) (10)
23. Supposing, whether (2)
24. Box (4)
25. Knight (3)
26. From a distance (4)
28. In email addresses (2)
29. Punishment (10)
31. Not B.C. (initials) (2)
32. Flower, tree etc. (5)
36. Expression of disagreement (2)
37. Make small (8)
38. Two, not just one (4)
40. Component (10)

### DOWN

1. Plastic for spending (6,4)
2. Vases (4)

3. Beers (4)
4. About (2)
5. After expenses (3)
7. Compete (3)
9. Tropical trees (5)
10. Continent (initials) (2)
13. Jeer (3)
14. To do with kidneys (5)
15. Not often (10)
16. Girl (4)
19. Consume (3)
20. Paled (anagram) (5)
21. Twitch (3)
22. A flower (4)
23. Boy's name (3)
27. Premier (5)
30. Girl's name (3)
32. Rounded vessel (3)
33. Note well (initials) (2)
34. Rip (4)
35. Ceased to live (4)
36. At present (3)
39. Hello (2)



## GREAT DEBATE • GREAT DEBATE • GREAT DEBATE

# REVOLVING CREDIT vs TRADITIONAL MORTGAGES

**Revolving credit mortgages work brilliantly for some people, disastrously for others.**

But first, what are they? The easiest way to explain such mortgages is via an example.

Let's say you get a \$50,000 revolving credit mortgage. You might use \$30,000 of it to buy a home – perhaps along with a traditional mortgage.

The remaining \$20,000 is there for you to borrow if and when you need it.

Typically, the loan will be linked to your cheque account. If that account had a balance of \$1000 before you got the loan, it will have a balance of minus \$29,000 after you've withdrawn the \$30,000.

From then on, you can pay off the loan at any speed you like, or you can take the balance to minus \$50,000 whenever you wish, just by writing cheques or making direct debits.

Each month, you pay interest on the average loan balance. And that's where the fun begins.

If you put all your income into the account as soon as possible, and pay all bills as late as possible, you will keep the loan balance down for as long as possible. And every day counts when the bank is calculating your average balance.

What it means is that any money you hold, whether for a day or several months, is being credited against your mortgage, lowering your interest bill.

To make the most of it, arrange for income to be direct credited into your account, and bills to be direct debited on the last payment date. Also, put as much as possible on credit cards for the credit-free period. That way, you don't pay for the items for up to 55 days from purchase date.

Revolving credit works particularly well for people whose income or spending is irregular and lumpy. They're more likely to have large amounts of cash sitting in the bank for a while.

And self-employed people, who might accumulate large sums to pay income tax and GST, can credit that money against their mortgage until tax payment day. (True, they could otherwise earn interest in a savings account. But that interest is lower than the mortgage interest rate, and it is taxable.)

Still, anyone who deposits income fast and pays bills slowly can benefit from a revolving credit mortgage.

There's just one problem, and it's a big one: Discipline. (CONTINUED PAGE 4)

### REVOLVING CREDIT PROS

- Get credit for income & savings
- Can borrow for other things
- Flexible payments

### REVOLVING CREDIT CONS

- Requires discipline
- Variable rate only
- Monthly bank fee

### TRADITIONAL PROS

- Less discipline needed
- Loan balance falls over time
- Variable or fixed rate or both

### TRADITIONAL CONS

- No credit for income & savings
- Relatively inflexible



(REVOLVING CREDIT vs TRADITIONAL MORTGAGES, CONTINUED)

A revolving credit mortgage is still a home loan, which you should want to pay off over time. It's best, therefore, to lower your loan balance each year.

If you can't resist the temptation to take a trip or buy a car you don't need, by adding it to the mortgage, you could end up paying interest forever.

**A couple of tests:** If you always, or almost always, pay your credit card in full within the interest-free period, and you find you can save some of your income, you can probably handle a revolving credit mortgage. If not, such a mortgage might cost you lots more than it saves you.

**Revolving credit mortgages have two other drawbacks:**

- You can't get a fixed rate mortgage. They are all variable rate loans.
- While the interest rate is usually the same as on traditional variable mortgages, many banks charge a fee of \$10 or \$12.50 a month on the revolving credit cheque account. Still, in most cases this cost will be offset by the lower interest paid – if you are disciplined!

Many people find a combination of both types of mortgage works well. It limits the temptation to overspend; forces you to reduce your total mortgage balance over time; and gives you the option of a fixed rate on your traditional loan.

There are no extra charges if you take out a combination loan when you buy a property.

But if you want to switch later, to make part of your mortgage a revolving credit loan, you may have to pay a fee of about \$250 or \$300.



**"Time and I against any two."**

Baltasar Gracian, 1601-1658

## A magic number

You're thrilled. The value of your house has doubled. But does this mean it was a good investment?

It depends on how long it took to double. The shorter the time, the higher the annual return. So how do you calculate the return?

Let's say your house value doubled in ten years, a 100% increase. That means it grew by 10% a year – 100% divided by ten years – right? Wrong!

The annual growth rate was actually around 7%.

The difference is because of compounding. Each year, the growth from the previous years is included in the calculation. You get growth on growth.

If you want to work out the annual return on an investment that has doubled in value, use the Rule of 72.

Divide 72 by the number of years over which the doubling took place. In the example above, divide 72 by 10, to get a return of about 7% a year.

If the investment doubled in six years, your return is 72 divided by 6, or about 12%. For eight years, it's 9%.

### Other uses of the Rule of 72:

- If you know the annual return and want to know how long it will take for your investment to double, divide 72 by the return.

On a 5% return, it will take about 14 years to double.

On a 12% return, about 6 years.

- If you know the inflation rate and want to know how long it will take for the value of your money to halve, divide 72 by the inflation rate.

With 2% inflation, your money's real value will halve in about 36 years.

With 4% inflation, it will halve in 18 years.

Note that the Rule of 72 is a mathematical approximation. It works pretty well up to around 15%. Beyond that it's a bit rough.

## SLASH THOSE PAYMENTS?

*Every now and then, an ad tells you something along the following lines:*

*"Slash your mortgage interest payments and the time it takes to pay off your loan by switching to fortnightly payments!"*

*It might then give an example that goes something like this:*

*"Monthly payments on a 25-year \$200,000 mortgage at 7% are \$1,414. If you halve that, and pay \$707 each fortnight, you will save \$47,000 in interest and pay off the loan in 20.5 years."*

*Sounds impressive. But all that's really happening is that you're paying more off each year: 12 times \$1,414 is about \$17,000; 26 times \$707 is about \$18,400.*

*If you stuck with monthly payments but increased them by*

*\$1,400 a year (the difference between \$18,400 and \$17,000), you would get pretty much the same result.*

*Does that mean fortnightly mortgage payments are bad? Not necessarily.*

*If you are paid monthly, choose monthly instalments; if paid fortnightly, choose fortnightly instalments.*

*It's easier to budget. And you don't have money sitting around earning low, taxable interest in a bank account when it could be reducing your mortgage balance as quickly as possible – and thus cutting your total mortgage interest.*

### WRITER AND PUBLISHER

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### Holm Truths Crossword Solution

C	A	L	C	U	L	A	T	O	R		N
R			R		L			E	V	E	N
E	X	P	E	N	S	E	S			I	T
D	A	S		S	A	B	R	E			I
I	L			L			O	E			N
T	E	M	P	T	A	T	I	O	N		I
C	A	S	E		S	I	R		A	F	A
A	T			D	I	S	C	I	P	L	I
R			A	D			S			R	Q
D			P	L	A	N	T		D	S	U
	N	O			B	E	L	I	T	T	L
B	O	T	H			A		E			N
W					I	N	G	R	E	D	I
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